

Listing of Claims

Claim 1 (Previously Presented): A method of parsing a data file containing a plurality of data elements according to a markup language, said method comprising:

receiving a file identifier of said data file from an application;

retrieving a first data element from said data file, wherein said first data element is comprised in said plurality of data elements;

determining a portion identifier of said first data element, wherein said portion identifier indicates a relative location of said first data element with respect to another data element in said data file according to said markup language; and

providing in association said portion identifier and said first data element to said application.

Claim 2 (Original): The method of claim 1, wherein said markup language comprises XML and said portion identifier comprises an XPath.

Claim 3 (Original): The method of claim 1, wherein said providing provides said portion identifier and said first data element according to an application programming interface (API), wherein said application obtains said portion identifier and said first data element by using one or more procedure calls according to said API.

Claim 4 (Original): The method of claim 3, wherein said API is defined to provide said portion identifier and said first data element as respective parameters of a single procedure call.

Claim 5 (Original): The method of claim 4, wherein said parsing is performed by an event-based parser.

Claim 6 (Original): The method of claim 3, wherein said parsing is performed by an object oriented parser, wherein said providing further comprises:

storing said first data element and said portion identifier in a data structure, wherein said application obtains said first data element and said portion identifier from said data structure.

Claim 7 (Original): The method of claim 3, wherein said API provides a procedure for said application to request that said XPath is to be provided either in abbreviated or non-abbreviated format.

Claim 8 (Original): The method of claim 3, wherein said API provides a procedure for said application to request that attributes related to said first data element are to be returned as XPaths.

Claim 9 (Original): The method of claim 3, wherein said API provides a procedure for said application to request that attributes related to said first data element are to be returned as values associated with said first data element.

Claim 10 (Original): The method of claim 3, wherein said parsing is performed according to a push parsing approach, wherein said API provides a procedure for said parsing to provide said Xpath to said application.

Claim 11 (Original): The method of claim 10, wherein said API allows said application to set a variable to a value to cause said procedure to provide attributes of said data element along with said XPath.

Claim 12 (Previously Presented): A method of implementing an application using data contained in a data file, said data file containing a plurality of data elements according to a markup language, said method comprising:

instructing a parser to parse said data file of interest;

obtaining in association both a portion identifier and a data element from said parser, wherein said portion identifier indicates a relative location of said data element with respect to another data element in said data file according to said markup language, said portion identifier being contained in said plurality of data elements; and

processing said data element and said portion identifier.

Claim 13 (Original): The method of claim 12, wherein said markup language comprises XML and said portion identifier comprises XPath.

Claim 14 (Original): The method of claim 12, wherein said obtaining obtains said portion identifier and said first data element according to an application programming interface (API).

Claim 15 (Original): The method of claim 14, wherein said API is defined to provide said portion identifier and said first data element as respective parameters of a single procedure call.

Claim 16 (Previously Presented): The method of claim 12, wherein said parser comprises an event-based parser.

Claim 17 (Original): The method of claim 14, wherein said parser comprises an object oriented parser, wherein said obtaining further comprises accessing said first data element and said portion identifier in a data structure.

Claim 18 (Original): The method of claim 14, wherein said API provides a procedure for said application to request that said XPath is to be provided either in abbreviated or non-abbreviated format.

Claim 19 (Original): The method of claim 14, wherein said API provides a procedure for said application to request that attributes related to said first data element are to be returned as XPaths.

Claim 20 (Original): The method of claim 14, wherein said API provides a procedure for said application to request that attributes related to said first data element are to be returned as values associated with said first data element.

Claim 21 (Previously Presented): A computer readable medium carrying one or more sequences of instructions causing a digital processing system to parse a data file containing a plurality of data elements according to a markup language, wherein execution of said one or more sequences of instructions by one or more processors contained in said digital processing system causes said one or more processors to perform the actions of:

receiving a file identifier of said data file from an application;
retrieving a first data element from said data file, wherein said first data element is comprised in said plurality of data elements;
determining a portion identifier of said first data element, wherein said portion identifier indicates a relative location of said first data element with respect to another data element in said data file according to said markup language; and
providing in association said portion identifier and said first data element to said application.

Claim 22 (Original): The computer readable medium of claim 21, wherein said markup language comprises XML and said portion identifier comprises an XPath.

Claim 23 (Original): The computer readable medium of claim 21, wherein said providing provides said portion identifier and said first data element according to an application programming interface (API), wherein said application obtains said portion identifier and said first data element by using one or more procedure calls according to said API.

Claim 24 (Original): The computer readable medium of claim 23, wherein said API is defined to provide said portion identifier and said first data element as respective parameters of a single procedure call.

Claim 25 (Original): The computer readable medium of claim 24, wherein said parsing is performed by an event-based parser.

Claim 26 (Original): The computer readable medium of claim 23, wherein said parsing is performed by an object oriented parser, wherein said providing further comprises:

storing said first data element and said portion identifier in a data structure, wherein said application obtains said first data element and said portion identifier from said data structure.

Claim 27 (Original): The computer readable medium of claim 23, wherein said API provides a procedure for said application to request that said XPath is to be provided either in abbreviated or non-abbreviated format.

Claim 28 (Original): The computer readable medium of claim 23, wherein said API provides a procedure for said application to request that attributes related to said first data element are to be returned as XPaths.

Claim 29 (Original): The computer readable medium of claim 23, wherein said API provides a procedure for said application to request that attributes related to said first data element are to be returned as values associated with said first data element.

Claim 30 (Original): The computer readable medium of claim 23, wherein said parsing is performed according to a push parsing approach, wherein said API provides a procedure for said parsing to provide said XPath to said application.

Claim 31 (Original): The computer readable medium of claim 30, wherein said API allows said application to set a variable to a value to cause said procedure to provide attributes of said data element along with said XPath.

Claim 32 (Withdrawn): A computer readable medium carrying one or more sequences of instructions causing a digital processing system to implement an application using data contained in a data file, said data file containing data according to a markup language, wherein execution of said one or more sequences of instructions by one or more processors contained in said digital processing system causes said one or more processors to perform the actions of:

instructing a parser to parse said data file of interest;

obtaining in association both a portion identifier and a data element from said parser, wherein said portion identifier identifies said data element in said data file according to said markup language, said data element being contained in said plurality of data elements; and

processing said data element and said portion identifier.

Claim 33 (Withdrawn): The computer readable medium of claim 32, wherein said markup language comprises XML and said portion identifier comprises XPath.

Claim 34 (Withdrawn): The computer readable medium of claim 32, wherein said obtaining obtains said portion identifier and said first data element according to an application programming interface (API).

Claim 35 (Withdrawn): The computer readable medium of claim 34, wherein said API is defined to provide said portion identifier and said first data element as respective parameters of a single procedure call.

Claim 36 (Withdrawn): The computer readable medium of claim 32, wherein said parser comprises an event-based parser.

Claim 37 (Withdrawn): The computer readable medium of claim 34, wherein said parser comprises an object oriented parser, wherein said obtaining further comprises accessing said first data element and said portion identifier in a data structure.

Claim 38 (Withdrawn): The computer readable medium of claim 34, wherein said API provides a procedure for said application to request that said XPath is to be provided either in abbreviated or non-abbreviated format.

Claim 39 (Withdrawn): The computer readable medium of claim 34, wherein said API provides a procedure for said application to request that attributes related to said first data element are to be returned as XPaths.

Claim 40 (Withdrawn): The computer readable medium of claim 34, wherein said API provides a procedure for said application to request that attributes related to said first data element are to be returned as values associated with said first data element.

Claim 41 (Previously Presented): The method of claim 1, wherein said retrieving retrieves successive data elements from said data file, wherein said determining determines

the portion identifier for each of said data elements in said data file upon retrieval of the data element based on a hierarchy in which the data element is present according to said markup language.

Claim 42 (Previously Presented): The method of claim 41, wherein said providing provides each data element and corresponding portion identifier to said application before said retrieving retrieves a next data element from said data file.

Claim 43 (Previously Presented): The method of claim 12, wherein said obtaining obtains each of said plurality of data elements associated with the corresponding portion identifier from said parser.

Claim 44 (Previously Presented): The computer readable medium of claim 21, wherein said retrieving retrieves successive data elements from said data file, wherein said determining determines the portion identifier for each of said data elements in said data file upon retrieval of the data element based on a hierarchy in which the data element is present according to said markup language.

Claim 45 (Previously Presented): The computer readable medium of claim 44, wherein said providing provides each data element and corresponding portion identifier to said application before said retrieving retrieves a next data element from said data file.

Claim 46 (Withdrawn): The computer readable medium of claim 32, wherein said obtaining obtains each of said plurality of data elements associated with the corresponding portion identifier from said parser.

Claim 47 (Previously Presented): An article of manufacture for parsing a data file containing a plurality of data elements according to a markup language, said article of manufacture comprising:

means for receiving a file identifier of said data file from an application;

means for retrieving a first data element from said data file, wherein said first data element is comprised in said plurality of data elements;

means for determining a portion identifier of said first data element, wherein said portion identifier indicates a relative location of said first data element with respect to another data element in said data file according to said markup language; and

means for providing in association said portion identifier and said first data element to said application.

Claim 48 (Previously Presented): The method of claim 1, wherein said relative location comprises a hierarchical path from a root data element contained in said plurality of data elements, wherein said root data element occurs at the beginning of said data file.

Claim 49 (New): A digital processing system comprising:

an application and a parser,

wherein said application is designed to instruct said parser to parse a data file of interest, said data file contains a plurality of data elements,

in response, said parser designed to retrieve a first data element from said data file, wherein said first data element is comprised in said plurality of data elements, said parser to determine a portion identifier of said first data element, wherein said portion identifier indicates a relative location of said first data element with respect to another data element in said data file according to said markup language, said parser to provide in association said portion identifier and said first data element to said application.